

## NOTES ON NOMENCLATURE OF TREES

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Here included are notes on the nomenclature of longleaf pine (Pinus palustris Mill.), Siebold walnut (Juglans ailan-  
tifolia Carr.), and sugar maple (Acer saccharum Marsh.) and  
a new combination in Glycosmis.

### LONGLEAF PINE, PINUS PALUSTRIS

The name Pinus palustris Mill. (Gard. Dict. Ed. 8, Pinus  
No. 14. 1768) has been applied, with some confusion, to two  
species of pines of southeastern United States. Most recent  
authors have adopted Pinus palustris Mill. for the longleaf  
pine and Pinus caribaea Morelet (Rev. Hort. Côte d'Or 1: 105.  
1851 (not seen); Soc. Hist. Nat. Moselle Bul. 7: 100. 1855)  
for the slash pine.

However, Small (Man. Southeast. Fl. 4, 5. 1933) used Pinus  
palustris for a variation of slash pine known also as swamp  
pine and applied to other variations of slash pine the names P.  
caribaea and P. heterophylla (Ell.) Sudw. (Torrey Bot. Club  
Bul. 20: 45. 1893; not P. heterophylla K. Koch, 1849, nor  
Presl, 1849). For the longleaf pine, Small accepted P. aus-  
tralis Michx. f. (Hist. Arbr. Amér. Sept. 1: 64, pl. 6. 1810).  
Previously, Small (Fl. Southeast. U. S. 27. 1903) had used P.  
palustris for the longleaf pine, with P. australis as a syn-  
onym. Sargent (Silva No. Amer. 11: 151. 1897) summarized the  
older references adopting P. palustris and P. australis for the  
longleaf pine. Recent authors accepting P. palustris for the  
swamp pine and P. australis for the longleaf pine include Van  
Dersal (Native Woody Plants U. S. U. S. Dept. Agr. Misc. Pub.  
303: 187, 191. 1938) and De Vall (Fla. Acad. Sci. Proc. 5 (1940):  
121-132. 1941).

As it is the oldest name, Pinus palustris Mill., "the three-  
leaved Marsh, American Pine with the longest leaves," should  
be adopted for one particular species, if the description is  
considered adequate for recognition of a species. Unfortunately,  
the original description, based upon Pinus Americana palus-  
tris trifolia, foliis longissimis DuRoi (Traité Arbr. Arbust.  
France 2: 126. 1755), is rather brief. The specific epithet,  
translated by Miller as "marsh," is misleading for the large,  
upland longleaf pines, as is Miller's statement that they grow  
"naturally on swamps in many parts of North America, where I  
have been informed they grow to the height of twenty-five or  
thirty feet." However, he added: "Their leaves are a foot or

more in length, growing in tufts at the end of the branches, so have a singular appearance ..."

Pinus australis Michx. f., "the long leaved pine," accompanied by a Latin diagnosis, a colored plate, and 22 pages of French description and discussion, including turpentine, is identified beyond doubt as the familiar longleaf pine. However, F. A. Michaux cited as synonym "P. palustris, Linn." and indicated that he was renaming P. palustris because that name was not appropriate for a species not of swamps. His exact words (p. 65) were: "J'ai pensé également que la dénomination spécifique d'australis étoit préférable à celle de palustris, sous laquelle cette espèce est décrite par les botanistes; car cette dernière donne une idée absolument fausse de la nature du sol où croît cet arbre." The substitute name, P. australis, is not especially appropriate either, as there are several species of southern pines. Miller's name was not cited as author, but the mention of Linnaeus probably is sufficient to connect the name and synonymy irregularly through Willdenow's edition (Ed. 4) of 'Linnaeus' Species Plantarum (4 (1): 499. 1805) and older references, such as Michaux (Fl. Bor.-Amer. 2: 204. 1803), back to Miller's original publication.

Thus, under Art. 60 (1) of the International Rules, P. australis Michx. f. is invalid, as it was nomenclaturally superfluous when published. It must be rejected and cannot be used for the longleaf pine. Furthermore, under Art. 59, P. palustris must not be rejected merely because it is badly chosen or disagreeable in stating the habitat incorrectly as marshes.

Pinus palustris Mill., the name generally used, should be retained for the longleaf pine. Its identity seems clear in spite of the minor inaccuracies in the original description noted above. No other species of this region has needles more than a foot long. Even F. A. Michaux in renaming the species recognized Miller's short description as applying to the longleaf pine. Continued use of Miller's name for a second species would result in further confusion.

The name Pinus caribaea Morelet apparently is the oldest available name for the slash pine. Whether the more northern variation merits specific segregation or is more properly a geographic race not requiring a separate scientific name is uncertain. Additional field study of these variations would be desirable. The available specific name for this swamp pine is P. elliotii Engelm. (Acad. Sci. St. Louis Trans. 4: 186, pl. 1-3. 1880). However, the differences seem no greater than those of geographic races of certain other species of pines with extensive ranges.

## SIEBOLD WALNUT, JUGLANS AILANTIFOLIA

While checking the nomenclature of the trees of the United States, I observed that the scientific name of the cultivated Siebold walnut from Japan, Juglans sieboldiana Maxim., was technically invalid as a later homonym of the fossil species J. sieboldiana Göppert. Accordingly, I adopted J. ailantifolia Carr. for the Siebold walnut (Wash. Acad. Sci. Jour. 33: 132. 1943).

Rehder (Arnold Arboretum Jour. 26: 68. 1945) accepted this nomenclatural change and made a new combination for the variety, Juglans ailantifolia var. cordiformis (Maxim.) Rehd. Afterwards Rehder (Arnold Arboretum Jour. 26: 472. 1945) adopted for the specific name J. cordiformis Maxim., published simultaneously with J. sieboldiana Maxim. and previously united with the latter as the variety. The new combination J. cordiformis var. ailantifolia (Carr.) Rehd. was proposed also.

However, by odd coincidence Maximowicz's two new species of Juglans published on adjacent pages both are invalid as later homonyms. J. cordiformis Maxim. is not available either, because of the much earlier J. cordiformis Wangerh., a name not in Index Kewensis but familiar as the basonym of Carya cordiformis (Wangerh.) K. Koch, bitternut hickory. Thus, J. ailantifolia Carr. remains the valid name for the Siebold walnut.

The essential synonymy of the species and variety are summarized below. Additional later synonyms were cited by Rehder.

## JUGLANS AILANTIFOLIA Carr.

## SIEBOLD WALNUT

Juglans sieboldiana Maxim., Acad. Impér. Sci. St.-Pétersb. Bul., sér. 3, 18: 60, fig. 1872. Not Juglans sieboldiana Göppert, Tert. Fl. Insel Java 154. 1854; nomen nudum. Not Juglans sieboldiana Göppert, Tert. Fl. Schosnitz Schles. 36, pl. 25, fig. 2. 1855 (fossil, Miocene, Silesia).

Juglans cordiformis Maxim., Acad. Impér. Sci. St.-Pétersb. Bul., sér. 3, 18: 62, fig. 1872. Not Juglans cordiformis Wangerh., Beytr. Forstwiss. Nordamer. Holz. 25, pl. 10, fig. 25. 1787; as "Juglans."

Juglans ailantifolia Carr., Rev. Fort. [Paris] 50: 414, fig. 85-86. 1878.

## JUGLANS AILANTIFOLIA Carr. var. CORDIFORMIS (Makino) Rehd.

## FLAT SIEBOLD WALNUT (heartnut)

Juglans cordiformis Maxim., Acad. Impér. Sci. St.-Pétersb. Bul., sér. 3, 18: 62, fig. 1872; later homonym.

Juglans sieboldiana var. cordiformis [Maxim.] Makino, Bot. Mag. Tokyo 9: 313. 1895; 15: 94. 1901.

Juglans ailantifolia var. cordiformis Rehd., Arnold Arboretum Jour. 26: 68. 1945.

Juglans cordiformis var. ailantifolia (Carr.) Rehd., Arnold  
Arboretum Jour. 26: 472. 1945.

### SUGAR MAPLE, ACER SACCHARUM

The scientific name of the sugar maple, Acer saccharum Marsh. (Arbustr. Amer. 4. 1785), has been the subject of much controversy in recent years. Some botanists have rejected this name as a misspelling or orthographical error of A. saccharinum L. (Sp. Pl. 1055. 1753) and have taken up A. saccharophorum K. Koch (Hort. Dendrol. 80. 1853) or A. nigrum Michx. f. (Hist. Arbr. For. Amér. Sept. 2: 238, pl. 16. 1812), if the two species are united. Majority opinion seems to favor retention of the widely accepted name, A. saccharum. This name probably can be retained under Art. 6, which provides for following established custom where the consequences of rules are doubtful. However, it is hoped that the permanent International Executive Committee to interpret the Rules in doubtful cases (Art. 73) will issue an Opinion on Acer saccharum. Otherwise the nomenclature will remain unsettled and subject to future proposals for change from time to time.

So much has been written about the nomenclature of the sugar maple that it is difficult to contribute new information. The most detailed history is that by Rousseau (Nat. Canad. 67: 161-200, 201-224, illus. 1940. Reprinted as: Univ. Montréal Inst. Bot. Contrib. No. 35, 66 p., illus. 1940. Also, No. 36: 36-37. 1940). In rejecting A. saccharum Marsh., Rousseau has led others to accept A. saccharophorum K. Koch. Attempts to interpret Marshall's intention, of which the latest is by Gleason (PHYTOLOGIA 2: 201-212. 1947), have not been entirely satisfactory, because the interpretations have differed.

Though now established in usage, Acer saccharum was not adopted by other authors until more than a century after its publication in 1785. Britton (N. Y. Acad. Sci. Trans. 9: 10. 1889; Cat. Fl. N. J. Geol. Surv. N. J. Rpt. 2 (1): 78. 1890) revived the name in 1889 and made the combination A. saccharum var. nigrum (Michx. f.) Britton. Widespread acceptance probably dates back only about forty years to the publication in 1908 of the seventh edition of Gray's Manual by Robinson and Fernald. Older botanists still active learned the names in the sixth edition of Gray's Manual by Watson and Coulter (1889), in which the sugar maple was A. saccharinum Wangenh. and the silver maple was A. dasycarpum Ehrh. The double change of A. saccharinum from the sugar maple to silver maple and the substitution of the unfamiliar, almost identical name, A. saccharum, for the sugar maple doubtless caused temporary confusion and was unpopular. Surely it was a greater disturbance than the present proposed change from A. saccharum to A. saccharophorum.



Sargent (Gard. and Forest 2: 364. 1889; 4: 148. 1891) at first refused to take up A. saccharum, interpreting it as a misprint. Noting also that Marshall's plant could not be satisfactorily determined from the description and that Marshall left no herbarium, Sargent concluded (p. 148) that "the only safe way is to pass over his name entirely." In his *Silva* (*Silva No. Amer.* 2: 97. 1892) Sargent adopted A. barbatum Michx. (*Fl. Bor.-Amer.* 2: 252. 1803). However, in a supplementary volume (*Silva No. Amer.* 13: 7. 1902), he rejected that name as based on a mixture and reluctantly accepted A. saccharum "for the sake of uniformity of nomenclature," while repeating his objections.

Adoption of Marshall's name has not been universal. In 1913 Nieuwland (*Amer. Midland Nat.* 3: 182. 1913) rejected A. saccharum as "absurd and besides homonymous" and "ungrammatical." Mackenzie (*Rhodora* 28: 111-112, 233-234. 1926) contended that this "fictitious name" should be abandoned. Introducing new evidence, he noted that in the French edition of Marshall's book, published in 1788, the spelling was corrected to A. saccharinum, and he cited an earlier spelling, A. sacchatum Mill. (*Gard. Dict. Abridged. Ed. 6, Acer No. 6.* 1771). Small accepted Marshall's name in his *Flora* (*Fl. Southeast. U. S.* 741. 1903) but rejected it in his *Manual* (*Man. Southeast. Fl.* 824. 1933) as "merely a misspelling."

Marshall's *Arbustrum Americanum* (169 p. Philadelphia, 1785) was a popular catalog in English, without Latin descriptions, authors' names, and citations, and thus differed from the technical botanical books of that age. As explained in the introduction (p. viii), the catalog contained Linnaean names and English names, generic descriptions, and "a plain and familiar description of the appearance, manner of growth, &c." of the species and varieties, with notes on the soil, habitat, and uses. The book closed with a page devoted to an advertisement stating that seeds and growing plants were offered at a reasonable rate by the author.

The arguments for and against Acer saccharum Marsh. as the name for the sugar maple may be summed up as follows:

**AFFIRMATIVE.** 1. Marshall in 1785 published the name Acer saccharum with the common name "sugar maple" and with a popular, English description which can be interpreted and accepted as fitting the sugar maple, at least in part.

2. Technically the sugar maple was then without a scientific name, as Acer saccharinum L. referred to the silver maple.

3. Positive proof that "saccharum" is a changed spelling of "saccharinum," whether intentional or accidental, is lacking and probably cannot be obtained.

4. The name Acer saccharum Marsh. is now established in

usage, and change of names would create confusion.

NEGATIVE. 1. The popular, English description of Acer saccharum Marsh. is indefinite. As Marshall left no herbarium, positive identification of the name cannot be made.

2. In order to account for Linnaeus' four species of maples native in the United States, Acer saccharum must correspond to A. saccharinum of Linnaeus. Marshall did not list both names.

3. The name Acer saccharinum was confused at that time and applied both to the silver maple and the sugar maple.

4. It is highly improbable that a botanist in the year 1785 would have assigned a new specific name almost identical with the Linnaean name of another species in the same genus and known from the same region.

5. Positive proof that "saccharum" is a changed spelling of "saccharinum," whether intentional or accidental, cannot be offered because Marshall's popular book omitted the technical details. Authors and citations of previously published names were not stated, and new species were not indicated.

6. Contemporary authors did not accept Acer saccharum as a valid name for a new species. Also, in both the French and German editions of Marshall's book, the translators changed the spelling to A. saccharinum.

7. Not until more than a century later, in 1889, was Acer saccharum finally adopted by another author, one who was making a revolutionary attempt to restore old names having priority. In the meantime other authors, such as Torrey and Gray (1840), had knowingly passed over the name.

The simplest conclusion from all these lines of evidence is that Marshall described the sugar maple but that the spelling "saccharum" was an error for "saccharinum." If Acer saccharum Marsh. had remained in disuse, would present-day botanists now revive and accept the name, in view of the above evidence? I think not. Perhaps Acer saccharum owes its acceptance largely to the reform movement in which so many names were changed at the same time.

Acer sacchatum Mill. (Gard. Dict. Abridged. Ed. 6, Acer No. 6. 1771), apparently an error for "saccharinum," can be rejected as superfluous when published (Art. 60), because Miller quoted Linnaeus' Latin description of A. saccharinum and cited "Lin. Sp. Pl. 1055." In other editions from 1768 on, Miller (Gard. Dict. Ed. 8. 1768) used the spelling A. saccharinum and associated Linnaeus' name with the sugar maple instead of the silver maple, as did Wangenheim (Beytr. Forstwiss. Nord-amer. Holz. 26, pl. 11, fig. 26. 1787) and many later authors. A. saccharum Marsh. cannot be discarded so readily, because Marshall did not cite Linnaeus nor even mention authors of

previously described names.

Another of Marshall's names revived by Britton as basonym for the pecan, Juglans pecan Marsh. (Arbustr. Amer. 69. 1785), has been rejected by Rehder (Arnold Arboretum Jour. 22: 571-572. 1941), by Little (Amer. Midland Nat. 29: 501-502. 1943), and by Fernald (Rhodora 49: 194-196. 1947). Anyone verifying Marshall's "description" will see that the name is almost a nomen nudum. Nevertheless, the name was widely accepted for a time and now must be discarded.

It seems that a majority of the botanists concerned wish to retain the widely accepted name, Acer saccharum Marsh. It certainly is simpler and less confusing to retain a doubtful name already in use than to attempt a change. As Gleason (PHYTOLOGIA 2: 203. 1947) has remarked, in all such cases the rules should be interpreted to favor the maintenance of a name rather than its change. Though my personal choice (Rhodora 46: 445. 1944) would be A. saccharophorum, I agree that perhaps it is best, "for the sake of uniformity of nomenclature," to retain Marshall's name.

GLYCOSMIS PARVIFLORA (Sims) Little, comb. nov.

CHINESE GLYCOSMIS

Limonia citrifolia Willd., Enum. Fl. Hort. Berol. 448. 1809.

Not Limonia citrifolia Salisb., Prodr. 320. 1796.

Limonia parviflora Sims, Curtis's Bot. Mag. 50: pl. 2416. 1823.

Glycosmis citrifolia (Willd.) Lindl., Roy. Hort. Soc. London Trans. 6: 72. 1826.

This species, commonly known as Glycosmis citrifolia (Willd.) Lindl., is an unarmed, evergreen shrub or small tree native of southern China, French Indo-China, and Thailand. It is cultivated and naturalized at Key West, Florida, according to Small (Man. Southeast. Fl. 759. 1933) and Everett (Addisonia 21: 29. 1940). Everett stated also that it is suitable for cultivation in the warmer parts of southern United States.

Some authors have included this species in G. pentaphylla (Retz.) DC., Malay glycosmis. However, in the latest summary of the genus, Swingle (in Webber and Batchelor, Citrus Industry 1: 157. 1943) maintained the two as distinct.

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